COMMONING ETHNOGRAPHY

Vol 2 | No 1 | 2019

The Benefits, Challenges, and Disincentives of Interdisciplinary Collaboration

Jennifer L. Lanterman and Sarah J. Blithe
University of Nevada, Reno

ABSTRACT | Research consistently demonstrates the value of interdisciplinary collaboration. It has also become common for universities to encourage their faculty to engage in interdisciplinary and collaborative research. However, there are several challenges and disincentives to this type of work. In this article, we draw on a single case study of a project employing interdisciplinary collaborative event ethnography (CEE) to demonstrate the benefits, challenges, and disincentives of this approach to research. We highlight the enhanced and nuanced outcomes achieved through interdisciplinary collaboration that would likely not have been achieved through an intradisciplinary approach to the research questions. The case study also highlights the challenges and disincentives associated with this research strategy, including longer work times, difficulty in publishing due to editorial and reviewer criticism about violating methods preferences or disciplinary boundaries, and issues related to publications outside of one's field. We conclude with a call to enhance the incentives associated with interdisciplinary collaborative research.

Keywords: collaboration; interdisciplinary research; ethnography; case study

ISSN 2537-9879 | DOI: https://doi.org/10.26686/ce.v2i1.5399

Published online 19 December 2019

Introduction

Interdisciplinary research collaborations involve scholars from two or more fields working together to explore, develop deeper understandings of, and craft solutions to complex problems. Elaine Ecklund (2010) argues that interdisciplinary research is the tool best suited to finding answers to pressing questions. Over the last 15 years, there have been increased calls for interdisciplinary research to address complicated problems that have not been successfully managed or resolved through intradisciplinary research (Klein 2010, National Academies 2004, Rhoten and Pfirman 2007). 'A multidisciplinary analytical team can generate unique insights from differing perspectives, engage in critical discussion of unclear or subjective data, and ensure consideration of multiple interpretations of the data' (Curry, Nembhard, and Bradley 2009: 1448). The nature of interdisciplinary research collaborations and how they operate, particularly those that are integrationist, render them better situated than intradisciplinary research to produce novel insights to complex problems that may cross disciplinary boundaries.

Interdisciplinary collaborations may yield novel insights or outcomes, but they are also accompanied by a set of challenges that are not present or are less pronounced in intradisciplinary research collaborations. The limited extant research on interdisciplinary collaborations, which is usually conducted by survey or by focusing on case studies from natural science and engineering collaborations, highlights the benefits of these partnerships and enumerates some of the challenges encountered by faculty participating in these projects. In this article we draw on a case study[1] from our research – an integrationist[2] interdisciplinary collaboration between social scientists in criminal justice and communication studies on firearm culture – to explore whether similar benefits, challenges, and disincentives emerge in a social science collaboration. This case study was focused on firearm culture, generally, as the initial phase of a research agenda aimed at exploring the etiology of firearm violence in the United States. Specifically, we ask:

1. What benefits can be generated from an interdisciplinary research collaboration of firearm culture between social scientists?
2. What challenges or disincentives are associated with an inter-disciplinary research collaboration of firearm culture between social scientists?

To address these questions, we begin by outlining some of the challenges involved in interdisciplinary collaboration. We then describe how we developed our research partnership and collaborative process, and explain how we conducted and analysed our research on firearm culture using interdisciplinary collaborative event ethnography (CEE). We both work for a university with a Carnegie R1 classification, which is awarded to doctoral universities with very high research activity (Carnegie Classification of Institutions of Higher Education n.d.). Administrators frequently advocate for collaboration and the Division of Research and Innovation explicitly supports interdisciplinary research collaborations, as

indicated on their website. In addition, our departments are both located in the School of Social Research and Justice Studies, which also encourages inter-departmental collaboration. Indeed, our collaboration produced enhanced and nuanced research outcomes. As we discuss, the data collection, analysis, findings, and discussion are all much different than they would be had we conducted the study alone. However, despite the encouragement and positive research outcomes, we also experienced challenges and disincentives to maintaining the collaboration similar to those experienced by interdisciplinary researchers working in natural science and engineering collaborations. We conclude by suggesting policy changes aimed at realising the potential of interdisciplinary collaboration.

Challenges to Interdisciplinary Collaboration

As noted above, the literature on interdisciplinary collaboration tends to focus on the benefits that can be derived from such partnerships. There is much less discussion about the challenges or disincentives of this work for the researchers who would conduct it. For example, interdisciplinary work requires more time due to the requirements of integrating at least two disciplines (Lattuca 2001). Researchers routinely identify navigating differences in disciplinary terminology as the most common barrier to interdisciplinary collaboration (Brewer 1999, Fry 2001, Gooch 2005, Öberg 2009, Repko 2012, Salter and Hearn 1996). Partners must also learn other modes of research, identify common ground, identify and resolve conflicts in insights, and the process simply takes longer because there are more people involved in the project (Borrego and Newswander 2010, McCoy and Gardner 2012, Repko 2012).

Interdisciplinary work also presents challenges in terms of professional assessment and advancement. Plank, Feldon, Sherman, and Elliot (2011) explain that most research universities have the infrastructure to support collaboration, but the incentive structure for individual faculty members is rooted in the assessment of their records in clearly defined fields, which is typically measured as publication in disciplinary journals. They write:

> Research-intensive universities enjoy – or suffer – a paradoxical reputation: They are thought to be dedicated to both cutting-edge research and to preservation of the canon. They are seen as broad and diverse communities of scholars with a vibrant collective intellectual life, yet also as silos of disciplinary entrenchment (2011: 35).

They further explain that there is no consensus on a fair or effective process for evaluating faculty work that falls outside of traditional disciplinary paradigms (Plank et al., 2011). Faculty and their research agendas may be simultaneously driven and hampered by structural factors in academia.

The promotion and tenure (P&T) process is not designed to properly account for or evaluate interdisciplinary scholarship (Ecklund 2010). The additional time required for interdisciplinary research and publication renders it hazardous for tenure-track faculty given the need to rapidly develop a reputation in one's respective field, again, typically based on publication record (Lattuca,

2001). Tenure-track faculty involved in interdisciplinary research are significantly more stressed about the P&T process than tenure-track faculty who do not participate in interdisciplinary research for this reason (Hurtado and Sharkness, 2008).

Institutions that encourage interdisciplinary collaboration may not recognize that it requires additional time to complete. Instead, as reported in a five-year study, faculty engaged in this type of work report that their institutions expect the 'work to occur in addition to everything else they had to do' (McCoy and Gardner 2012: 48). In other words, universities promote interdisciplinary collaboration, but consider it as if it were supplemental work rather than researchers' primary approach to complicated research questions. Viewing and evaluating interdisciplinary collaborations in this way runs contrary to the requirements of such a research approach and likely contributes to the dearth of this type of research.

Research Partnership and the Collaborative Process

Our collaboration came about when criminologist Jennifer (first author), who adopts a positivist approach and primarily relies on quantitative data, was thinking about the etiology of the pernicious problem of firearm violence in the United States. She decided to begin by studying the broader firearm culture but could not figure out how to measure culture. She recalled that her colleague, Sarah (co-author), is a communication scholar with expertise in communication and culture. Jennifer walked down the hallway to Sarah's office, explained the general research idea, and asked, "How do you measure culture?" Sarah, who adopts a critical-interpretive approach to how people organize and primarily relies on qualitative data, responded, "I don't *measure* culture; not the way you would." Thus, began our research partnership.

We decided that gun shows would be a good setting to observe the variations in firearm culture. Their size would allow us to observe individual and group behavior in an unobtrusive way. We employed CEE, a method that is collaborative by definition, for the case study described in this article. CEE allows groups of researchers to jointly study large events in action by simultaneously allowing researchers to 'study up,' or observe overall trends at large sites, and 'study down,' or examine the experiences and interactions of individual people at a location (Brosius and Campbell 2010, Büscher 2014, Ganesh and Stohl 2013). This approach supports the detection of nuance (Büscher 2014). We moved through gun shows together so we could document similarities and differences in our observations, employing participant-observation as our primary data collection method. Participant-observation allows researchers to 'see the behavior you are interested in as it happens' rather than 'hearing about them secondhand' (Guest, Namey, and Mitchell 2013: 81). Collecting data together also allowed the research collaboration to benefit from our relative strengths; the criminologist's ability to identify legal violations and propensity to document the frequency of observed behaviors, and the communication scholar's ability to identify methods of communication and stigma management practices. We studied seven gun

shows in Nevada, Ohio, and Virginia using CEE to identify common themes and differences across sites to account for possible regional variation.

Data analysis and writing were also collaborative processes. We wrote brief 'scratch notes' (Lindlof and Taylor 2002) at the gun shows, collected artifacts (e.g., flyers, pamphlets, stickers), and typed our field notes separately after each gun show. We documented our observations of the research partnership itself, including the benefits we experienced and the challenges we faced. This process generated 50 single-spaced pages of field notes and 200 artifacts. We also conducted document reviews (e.g., the field notes from the initial study, e-mails from journal editors and manuscript reviewers, annual and academic year evaluations, contemporaneous notes kept from meetings with university administrators regarding collaboration and publication).

The data were analyzed using thematic content analysis. We conducted all of the coding and analyses together. We evaluated the data using an explanation building process. Explanation building is a method employed to develop a robust explanation for the case in an explanatory case study (Belk 2012, Yin 2018). Yin explains that the method 'has not been well documented in operational terms' (2018: 180). The method is described as an iterative process that is partially deductive, based on propositions derived from theory or existing literature, and partially inductive, based on the case study data (Yin 2018). The result is a strong explanation for the case that can withstand rival explanations in subsequent research.

Once the analyses were complete for a manuscript idea, one of us would take the lead on writing the manuscript and send the draft to the other for her contributions. Then, we exchanged multiple drafts of the manuscripts to work through our research questions.

Benefits of Interdisciplinary Collaboration

This collaboration produced enhanced and nuanced research outcomes that may not have been identified if either researcher had independently executed the study. As a criminologist, Jennifer was able to identify legal and behavioral issues that were not obvious to Sarah. For example, she identified illegal items for sale at several gun shows, including immediate sales of suppressors, which universally require a registration process involving a background check, a tax stamp, and period of time for the Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF) to process the application (see Bureau of Alcohol, Tobacco, Firearms, and Explosives 2018). During one field visit, she observed a retailer who identified himself as a federally licensed firearms dealer (FFL) telling patrons, 'We won't run a background check.' This is illegal (see Gun Control Act of 1968). During a field visit in Nevada, she observed an FFL tell a patron seeking to purchase a large-capacity magazine not to produce his driver's license in case he is from California; large-capacity magazines were illegal in California at the time (Prohibition on manufacture, import, sale, gift, loan, purchase, or possession of large-capacity magazines, 4 Cal. Penal Code § 32310) and it would be illegal to sell the magazine to the patron (Gun Control Act of 1968).

Jennifer also observed the frequent unsafe handling of firearms. There are several generally accepted rules for the safe handling of firearms. She observed the regular violation of two of these rules: always point the firearm in a safe direction (i.e., don't point a firearm at any person or thing you don't intend to shoot), and always keep your finger off the trigger (National Rifle Association 2019, National Shooting Sports Foundation 2019, Project Child Safe n.d.). In several cases, the FFL posted signs about requiring safe handling of firearms, patrons violated the rules, and the FFL did not highlight the problem behavior or remind the patron of these rules in any of the instances observed by the authors. All of these observations were not recognized by Sarah, but were included in the dataset because of Jennifer's background and experience as a criminologist.

Sarah, as a communication scholar, also made unique contributions to the project. She identified stigma management methods and practices and interactions that were not obvious to Jennifer. Firearms are subject to core and event stigma (Hudson 2008). Core stigma is attached to organizations by virtue of their existence and render their general social acceptance unlikely (Hudson 2008). Hudson (2008) explains that event stigma stemming from particular events will be associated with certain types of organizations. In the United States, the high level of firearm violence, including myriad high-profile incidents, relative to other high income, democratic, and industrialized countries, renders firearms organizations and events subject to both core and event stigma (see Editorial 2007). These organizations and events communicated (through interactions, symbols, and texts) a range of stigma management practices that were not obvious to Jennifer. We both identified a range of troubling items at the gun shows that reflected racism, sexism, misogyny, anti-Semitism, and anti-Muslim bias. However, Sarah identified non-verbal communication practices related to these themes in this environment. These methods of communication were not apparent to Jennifer.

We integrated disciplinary knowledge, as well as discipline-preferred data collection and analytical methods, to address the National Research Collaborative on Firearm Violence's call for qualitative firearms research 'to identify factors that influence individual and group firearm behavior' (Lanterman and Blithe 2018: 31, Weiner et al. 2007). Thus far, this interdisciplinary collaboration has produced two journal articles, including one in which we identified stigma and identity management practices in gun collectives (Blithe and Lanterman 2017) and another in which we examined the firearm culture socialization of young children at gun shows (Lanterman and Blithe 2018). The interdisciplinary nature of these papers suggests that neither of us would have independently been able to produce the same work.

A number of positive changes occurred for both of us based on this collaboration. First, we each vastly increased our breadth of knowledge about the topic, which led to more publications. Second, we both benefitted from having "new eyes" on our writing, which challenged and improved our abilities to write for different audiences. Third, we each learned more about literatures and methods, rather than repeating studies in our preferred traditions. In addition to general knowledge building, we also benefitted socially. The collaboration

allowed us to build a friendship, and to network with each other's networks, which was beneficial for our academic and social support as two professors on the tenure track. In addition, publishing in interdisciplinary fields has made the authors intelligible to a broader audience. This has some practical benefits – for example, our scores on ResearchGate and Academia.edu are fueled by citation rates, which impact the likelihood of being promoted to full professor, or success in seeking other academic jobs.

Other positive outcomes resulted from the collaboration. We firmly believe that our respective fields benefit from the inclusion of the other's perspective. For example, Jennifer sees great value in including qualitative data into firearm violence research and criminal justice more broadly. Sarah sees a desperate need for communication scholars to be knowledgeable and involved in gun violence research. Undoubtedly, the research produced was much more robust because of its interdisciplinary nature, which benefits readers in both fields.

Challenges and Disincentives of Interdisciplinary Collaboration

We encountered numerous challenges that disincentivized maintenance of our collaboration. The project required more time than disciplinary work due to the integrationist nature of the collaboration. We also experienced difficulty in publishing due to editorial and reviewer criticism about violating methods preferences or disciplinary boundaries, and we had to contend with issues related to publications outside of one's field.

Longer work times

Our research on this collaborative project took more time than disciplinary work for several reasons. First, we sought to understand and to integrate our divergent positivist and interpretive epistemological approaches, as much as possible (Repko 2012: 138). A researcher who adopts a positivist approach believes in studying only observable actions rather than attitudes; studying people independent of their environments with the goal of explaining their actions; and the primacy of quantitative data (Repko 2012, Szostak 2004). Conversely, a researcher who adopts an interpretive approach often studies attitudes and the meanings of actions; studies people in their natural environments with the goal of understanding rather than explaining their actions; and employs qualitative analysis (Repko 2012, Szostak 2004). We studied observable actions and attitudes conveyed by participants at gun shows and focused on qualitative analysis. It took time for us to work through our differing research approaches and develop our study design.

During data collection, we spent extended time in the field, discussing what we observed and why we thought it was important, rather than moving through the observation and taking field notes. Much of our initial conversation at each site revolved around how to observe, what to watch, and whether or not to engage with other participants. We shared our own disciplinary knowledge with one another and ultimately still collected different data in our observations.

Second, we had to learn the terminology, literature, theories, and preferred methods in each other's disciplines. This process allowed us to identify common

ground and decide upon what literature and theories to rely and methods to employ for the overall project and the two journal articles. As discussed above, we engaged in joint data coding to address issues related to disciplinary differences. The process of understanding each other's approaches to research, disciplinary terminology, literature, theories, and preferred methods resulted in a longer initial preparation period than would be observed in a collaboration among scholars in the same discipline. It sometimes felt like learning a completely new language. Our decision to engage in joint coding resulted in longer time to complete analyses. Rather than splitting the data to code separately, we went through each line of data together, and had lengthy conversations about how to code each piece. In addition, we had more initial codes than might have otherwise existed because we each saw value, themes, and patterns in different ways.

Finally, our disciplinary differences resulted in longer periods of time to draft, review, and provide feedback on manuscripts. We each continually considered the other's disciplinary orientation to the work as we wrote. We also have different writing styles, so we often worked through several more manuscript drafts to settle on a final version than we would when working independently. Jennifer is direct, brief, and quite organized in sentence and paper structure. Sarah, on the other hand, writes much longer sentences and tends to loosely organize her papers by themes. It took much back and forth (and quite a few laughs about our own idiosyncrasies) to complete a manuscript. Ultimately, though, we each improved and broadened our repertoire of academic writing.

Violating preferred methods and disciplinary boundaries

We experienced higher than usual rejection rates for each paper we submitted to journals for review compared to our intradisciplinary manuscript submissions. The reasons for the rejections varied by journal and discipline. Ultimately, the disproportionately high rate of manuscript rejection resulted in much longer periods of time from drafting the initial manuscript to eventual publication of accepted papers.

Criminal justice and criminology journal editors expressed concerns over methodology. There is a strong preference for quantitative research in criminal justice and criminology. A manuscript based on social learning theory was submitted to two criminal justice journals focused on theory. In both cases, the manuscript was subject to desk rejection due to the use of CEE, a qualitative method, even though neither journal website indicates a requirement for quantitative methods. In one case, an editor suggested that we either search for a journal outside of criminal justice that will accept qualitative research or find a way to study the topic of interest using quantitative methods. This manuscript was later published in the only criminal justice journal that focuses on qualitative research.

Communication journal editors and reviewers expressed concerns over focal topics and disciplinary issues. Reviewers for an article submitted to a communication journal claimed that the article would 'make a better fit in another journal,' and that we did not 'sufficiently put [our] findings in conversation with the organizational communication literature.' To be sure, the literature review was

rooted in literature from both disciplines, which may have made the literature review seem less robust for reviewers who are experts in a specific disciplinary literature. Further, reviewers expressed concerns about the methods employed in our study, explaining, 'I am still unclear how observing participants at gun shows makes sense, methodologically' and concerns that the study 'lack[s] in scholarly rigor.' The reviewers also noted the unusual pairing of our individual contributions. For example, one reviewer noted, 'These practices, such as cash payments, are important for understanding how hidden organizations function, but the communicative aspects of these practices are not well illuminated.' In some places, meshing our individual observations did not translate to clear findings from the reviewers' perspectives. In a similar way, another reviewer commented, 'Your efforts to connect a paper about [firearm collectives] to your concern about gun violence dilutes the value of your argument.' In this case, we paired two distinct areas of expertise – organizing and gun violence – and rather than clearly communicating a novel insight, the effect was confusion and a diluted argument for the reviewers. Some of these critiques may have arisen for reasons other than the interdisciplinary nature of the project. However, neither of us had previously experienced these kinds of comments from editors or reviewers, which seem to point to the mixing of literatures, expertise, and styles.

We submitted a manuscript on how different groups of people communicate about firearms to a journal that addresses cultural issues in communication. The editor rejected the manuscript on the grounds that the ways in which groups of people communicate about firearms was not appropriate for a journal on communication. He suggested that we submit the paper to a sociology journal. Ultimately, we published a version of this manuscript in an interdisciplinary journal, entirely outside of the communication field.

Journal discipline and credit for publications

It is necessary for one author to take the lead on a co-authored manuscript. This can be complicated in an interdisciplinary collaboration, because the paper will either be submitted to a journal that is outside at least one collaborator's field, or the paper will be geared toward a journal that is outside of all of the collaborators' fields because it will accept interdisciplinary work.

We are employed by a university that evaluates all faculty each year, and tenure-track faculty twice per year, through the universal annual review and an academic year review. We were both on the tenure track when we commenced our collaboration. Our department chairs reviewed and assessed our work twice per year, and the department personnel committees and college dean reviewed our work once per year. The research component of these reviews focuses on the number of manuscripts submitted and published, the disciplinary rank of the journals, intellectual contributions to the discipline, and emerging reputation in the field.

We received conflicting feedback in these reviews. Generally, those reviewing our records supported the collaborative research project. However, in the review process there were some concerns expressed about the number of manuscript rejections, the length of time it was taking to get manuscripts accepted

for publication, and the publication of manuscripts in journals outside of our respective disciplines that receive less weight than publications in one's discipline. Our collaboration – theoretically supported by our university – was the source of the issues subject to criticism in these reviews.

Discussion

This case study demonstrates that an interdisciplinary research collaboration between social scientists yields the same types of benefits and generates the same types of challenges and disincentives highlighted in survey research and case studies of natural science and engineering collaborations. Our research, an integrationist interdisciplinary collaboration, studied firearm culture. Consistent with past research on integrationist interdisciplinary collaborations, we produced more comprehensive and nuanced understandings of firearm culture and behavior among participants (Curry et al. 2009, Repko 2012, Vickers 1998). Our work yielded outcomes that likely would not have been discovered if we had each pursued the project independently or with intradisciplinary scholars. We wrote several manuscripts outlining our innovative approach to the study of firearm culture and the unique insights produced through our work.

This collaboration reinforced our belief that diversity in disciplinary perspectives is useful on research teams. We each observed behaviors the other research partner did not notice. In some cases, we observed the same behaviors, but had different thoughts about what we observed. The combination of different observations and varied interpretations of shared observations lead to deep conversations. This research collaboration also underscored our views on the value of multiple and mixed methods research. Ultimately, these observations, discussions, and disciplinary boundary-violating approaches to the research resulted in novel work.

Despite the novel approach and unique insights yielded through this project, our interdisciplinary approach was stymied by several challenges and disincentives to maintaining the collaboration. All aspects of the project discussed here require more time than independent projects and projects that fit squarely in our respective disciplines. The longer study planning, execution, and writing times, coupled with the more frequent manuscript rejections from journals outlined above, create a circumstance in which every manuscript accepted for publication requires much more time from start to finish than standard publications in our respective disciplines. The prolonged time to execute the study and secure the publication of manuscripts reduces researchers' publication records, which presents difficulties for us in terms of professional assessment.

There is a recognition among researchers that there are gaps in the firearms culture, behavior, and violence research as reflected in the National Research Collaboration on Firearm Violence's call for qualitative research, particularly ethnographic study, of individual and group firearm behavior (Weiner et al. 2007). We responded to this call with a study using CEE to examine firearm culture at gun shows in three regions of the United States, and our study yielded information not yet discussed in the research literature. However, gatekeepers at journals significantly slowed or prevented the dissemination of novel findings to the

broader field. Fine (2018) explained that working in difficult collaborations can yield both unexpected insights into the subject of study as well as unexpected incites associated with the disruptive nature of non-traditional collaborations or approaches to work. We experienced both new insights and incites through this collaboration as evidenced by our experiences with journal editors and reviewers. Journals, the primary outlets for research dissemination in many disciplines, are hampering the circulation of innovative research that reveals new insights due to parochial concerns regarding traditionally preferred methods and disciplinary boundaries. In other words, journals are, in some cases, hindering rather than facilitating research into some of the most pressing issues facing society; precisely the types of issues that are ripe for interdisciplinary research.

Finally, there is a disconnect between professed university support for interdisciplinary collaborations and the structure within which faculty are assessed. Our university administration is supportive of interdisciplinary collaboration. However, annual and academic year evaluations included criticism related to publication issues (e.g., number of manuscript rejections, longer time to publication) that are a result of the interdisciplinary collaboration, which reduced annual evaluation scores and can detract from opportunities for P&T over time. Consistent with the findings of Plank and colleagues (2011), our home university maintains a traditional incentive structure for faculty that is rooted in the assessment of their records in clearly defined fields, which is typically measured as publication in disciplinary journals. Currently, the P&T process is not designed to adequately account for the conditions of interdisciplinary collaboration, as highlighted by Ecklund (2010). And, as previously found by McCoy and Gardner (2012), we were expected to conduct work on the interdisciplinary collaboration *in addition* to our disciplinary publication without consideration for the increased time necessary to complete interdisciplinary research or the every-increasing time demands associated with teaching and service.

Collectively, these issues are problems for all faculty, but these issues are particularly pressing for faculty at R1 institutions. Typically, these institutions have high publication expectations in terms of the number and placement of papers in top-tier disciplinary journals, and tenure-track faculty must establish a disciplinary publication record in a short period of time. The work conditions for faculty, particularly at R1 institutions, and the obstacles associated with publication in disciplinary journals serve to suppress interdisciplinary collaboration and the search for answers to society's most pressing problems.

Plank and colleagues (2011) argue that research-intensive universities ought to be or are thought to be places where cutting-edge research occurs. The capacity exists among the faculty at these universities to conduct this type of much-needed interdisciplinary research, but universities must enhance the incentives for interdisciplinary collaborations. Universities cannot expect researchers to sacrifice professional advancement for the sake of participating in interdisciplinary projects.

Our experiences, as well as the extant literature, suggest a few requisite policy changes. Annual review and P&T criteria should explicitly address how interdisciplinary research is evaluated and counted in assessment processes

(McCoy and Gardner 2012: 47). All review criteria should address how publications outside of one's discipline will be considered in the assessment process. In order to support or encourage interdisciplinary collaboration, universities must consider straying from the traditional assessment practices of only affording credit to publication in disciplinary journals, affording significantly less credit to journal articles outside of one's discipline, or only considering journal articles outside of one's disciplines in addition to a requisite annual number of articles in disciplinary journals. If non-traditional publications or extra-disciplinary journal publications are accepted by more research-intensive universities, then this shift may impact the journal market in terms of the types of work journal editorial boards will accept or support the development of new journals open to interdisciplinary research.

Our study and previous research demonstrate that interdisciplinary collaborations typically require more time than single researcher or intradisciplinary collaborations. Policies should account for the additional time necessary for these collaborations. The form this policy takes will vary based on the structure of the assessment system. For example, in a points-based assessment system, additional points can be afforded to collaborations. Beyond these basic policy changes, more elaborate collaborations may require additional resources and consideration in the faculty assessment process.

Research-intensive universities have the capacity to be centers of cutting-edge research rooted in collaborations. However, policies need to account for the challenges associated with collaborations, especially interdisciplinary collaborations. Without institutional policies that adequately account for longer work times and the challenges associated with publication, universities may inhibit and continue to disincentivize innovative work geared toward addressing pressing problems.

Notes

1. There are two types of interdisciplinary collaborations. Generalist inter-disciplinary work involves the interaction of two or more disciplines but does not result in the integration of approaches or methods (Moran 2010: 14, Repko 2012: 4). Integrationist interdisciplinary work is focused on integrating disciplinary theory and methods to address the complexity of the issues under study (Newell 2007: 245, Repko 2012: 4). Integrationist interdisciplinary collaborations produce 'new knowledge, more comprehensive understandings, new meanings, and cognitive advancements' (Repko 2012: 10, Vickers 1998). In integrationist collaborations, '[T]he quality and breadth of analysis are enhanced by ongoing and close involvement of multiple analysts from differing disciplines' (Curry, Nembhard, and Bradley 2009: 1448, Denzin and Lincoln 2000, Mays and Pope 1995, Patton 1999).

2. Case studies are appropriate when the researchers intend to produce 'concrete, practical (context-dependent) knowledge' (Flyvbjerg 2004: 421). A single-case design may be employed in five circumstances, including when the single case is

a common case and the goal is 'to capture the circumstances and conditions of an everyday situation' or a common experience in a particular context (Yin 2018: 50). We selected this case because we considered it to reflect common experiences in interdisciplinary research collaborations among social scientists.

References Cited

Belk, Alan
2010. Explanation Building. In *Encyclopedia of Case Study Research*, edited by Albert J. Mills, Gabrielle Durepos, and Elden Wiebe, 368-370. Thousand Oaks, CA: Sage Publications, Inc.

Blithe, Sarah J. and Jennifer L. Lanterman
2017. Camouflaged Collectives: Managing stigma and identity at gun events. *Studies in Social Justice* 11(1): 113-35.

Borrego, Maura and Lynita K. Newswander
2010. Definitions of Interdisciplinary Research: Toward graduate-level interdisciplinary learning outcomes. *The Review of Higher Education* 34(1): 61-84.

Brewer, Garry D
1999. The Challenges of Interdisciplinarity. *Policy Sciences* 32(4): 327-37.

Brosius, J. Peter and Lisa M. Campbell
2010. Collaborative Event Ethnography: Conservation and development trade-offs at the Fourth World Conservation Congress. *Conservation & Society* 8(4): 245-55.

Bureau of Alcohol, Tobacco, Firearms, and Explosives
2018. *Application for tax paid transfer and registration of firearm*. Accessed 18 May 2019 from www.atf.gov

Büscher, Bram
2014. Collaborative Event Ethnography: Between structural power and empirical nuance? *Global Environmental Politics* 14(3): 132-38.

Carnegie Classification of Institutions of Higher Education
n.d. *Basic Classification Description*. Accessed 18 May 2019 from carnegieclassifications.iu.edu/classification_descriptions/basic.php

Curry, Leslie A., Ingrid M. Nembhard, and Elizabeth H. Bradley
2009. Qualitative and Mixed Methods Provide Unique Contributions to Outcomes Research. *Circulation* 119(10): 1442-52.

Denzin, Norman K. and Yvonna S. Lincoln
2000. *Handbook of Qualitative Research* (2nd ed.). Thousand Oaks, CA: Sage Publications, Inc.

Editorial
2007. Gun Violence and Public Health. *The Lancet 369*: 1403.

Ecklund, Elaine H.
2010. What's the big idea? *The Chronicle Review*. September 3 http://chronicle.com/article/Whats-the-Big-Idea-/124277

Fine, Michelle
2018. *Just Research in Contentious Times: Widening the methodological imagination*. New York, NY: Teachers College Press.

Flyvbjerg, Bent
2004. Five Misunderstandings about Case-study Research. In *Qualitative Research Practice*, edited by Clive Seale, Giampietro Gobo, Jaber F. Gubrium, and David Silverman, 420-434. Thousand Oaks, CA: Sage Publications Inc.

Fry, Gary L.A.
2001. Multifunctional Landscapes – Towards transdisciplinary research. *Landscape and Urban Planning* 57(3): 159-68.

Ganesh, Shiv and Cynthia Stohl
2013.From Wall Street to Wellington: Protests in an era of digital ubiquity. *Communication Monographs* 80(4): 425-51.

Gooch, John C.
2005. The Dynamics and Challenges of Interdisciplinary Collaboration: A case study of "cortical depth of bench" in group proposal writing. *IEEE Transactions on Professional Communication* 48(2): 177-90.

Guest, Greg, Emily E. Namey, and Marilyn L. Mitchell
2013. *Collecting Qualitative Data: A field manual for applied research*. Thousand Oaks, CA: Sage Publications Inc.

Gun Control Act, 18 U. S. C. § 922 (1968).

Hudson, Bryant A.
2008. Against All Odds: A consideration of core-stigmatized organizations. *Academy of Management Review* 33(1): 252-66.

Hurtado, Sylvia and Jessica Sharkness
2008. Scholarship is Changing, and So Must Tenure Review. *Academe* 94(5): 37-39.

Klein, Julie T.
2010. *Creating Interdisciplinary Campus Cultures: A model for strength and sustainability*. San Francisco, CA: Jossey-Bass.

Lanterman, Jennifer L. and Sarah J. Blithe
2018. Culture, Socialization, and Firearms Violence in the United States. *Journal of Qualitative Criminal Justice and Criminology* 7(1): 27-47.

Lattuca, Lisa R.
2001. *Creating Interdisciplinarity: Interdisciplinary research and teaching among college and university faculty*. Nashville, TN: Vanderbilt University Press.

Lindlof, Thomas R. and Bryan C. Taylor
2002. *Qualitative Communication Research Methods*. Thousand Oaks, CA: Sage Publications, Inc.

Mays, Nicholas and Catherine Pope
1995. Rigour and Qualitative Research. *British Medical Journal* 311(6997): 109-12.

McCoy, Shannon K. and Susan K. Gardner
2012. Interdisciplinary Collaboration on Campus: Five questions. *Change: The Magazine of Higher Learning* 44(6): 44-9.

Moran, Joe
2010. *Interdisciplinarity* (2nd ed.). New York, NY: Routledge.

National Academies, The
2004. *Facilitating Interdisciplinary Research*. Washington, DC: The National Academies Press.

National Rifle Association
2019. *NRA Gun Safety Rules*. Accessed 18 May 2019 from https://gunsafetyrules.nra.org

National Shooting Sports Foundation
2019. *Firearms Safety: 10 rules of safe gun handling*. Accessed 18 May 2019 from www.nssf.org

Newell, William H.
2007. Decision Making in Interdisciplinary Studies. In *Handbook of Decision Making*, edited by Göktuğ Morçöl, 245-64. New York: Marcel-Dekker.

Öberg, Gunilla
2009. Facilitating Interdisciplinary Work: Using quality assessment to create common ground. *Higher Education* 57(4): 405-15.

Patton, Michael Q.
1999. Enhancing the Quality and Credibility of Qualitative Analysis. *Health Services Research* 34(5): 1189-1208.

Plank, Jeffrey, David Feldon, William Sherman, and Jennifer Elliot
2011. Complex Systems, Interdisciplinary Collaboration, and Institutional Renewal. *Change: The Magazine of Higher Learning* 43(3): 35-43.

Prohibition on manufacture, import, sale, gift, loan, purchase, or possession of large-capacity magazines, 4 Cal. Penal Code § 32310.

Project Child Safe
n.d. *Safe Handling*. Accessed 18 May 2019 from www.projectchildsafe.org

Repko, Allen F.
2012. *Interdisciplinary Research: Process and theory* (2nd ed.). Thousand Oaks, CA: Sage Publications, Inc.

Rhoten, Diana and Stephanie Pfirman
2007. Women in Interdisciplinary Science: Exploring preferences and consequences. *Research Policy* 36(1): 56-75.

Salter, Liora and Alison Hearn
1996. *Outside the Lines: Issues in interdisciplinary research*. Buffalo, NY: McGill-Queen's University Press.

Szostak, Rick
2004. *Classifying Science: Phenomena, data, theory, method, practice*. Dordrecht, Netherlands: Springer.

Vickers, Jill
1998. "[U]nframed in open, unmapped fields": Teaching the practice of interdisciplinarity. *Arachne: An Interdisciplinary Journal of the Humanities* 4(2): 11-42.

Weiner, Janet, Douglas J. Wiebe, Therese S. Richmond, Kristen Beam, Alan L. Berman, Charles C. Branas, …Daniel Webster
2007. Reducing Firearm Violence: A research agenda. *Injury Prevention* 13(2): 80-4.

Yin, Robert K.
2018. *Case Study Research and Applications: Design and methods* (6th ed). Thousand Oaks, CA: Sage Publications Inc.

Jennifer L. Lanterman
Associate Professor
Department of Criminal Justice
University of Nevada, Reno,
1664 N. Virginia Street
MS 0214
Reno, NV 89557-0214
USA
jlanterman@unr.edu

Sarah J. Blithe
Associate Professor
Department of Communication Studies
University of Nevada, Reno,
1664 N. Virginia Street
MS 0229
Reno, NV 89557-0229
USA
sblithe@unr.edu